



Written Testimony of:

Kevin O’Flaherty

Director of Advocacy – Northeast Region

Campaign for Tobacco-Free Kids

In support of:

LD 1550: An Act to End the Sale of Flavored Tobacco Products

Before the:

Committee on Health and Human Services

May 7th, 2021

Augusta, ME

The Campaign for Tobacco-Free Kids submits these written comments in support of LD 1550, which would prohibit the sale of all flavored tobacco products (including e-cigarettes) in Maine. The Campaign for Tobacco-Free Kids is the nation's largest non-profit, non-governmental advocacy organization solely devoted to reducing tobacco use and its deadly toll by advocating for public policies that prevent kids from using tobacco, help smokers quit and protect everyone from secondhand smoke.

LD 1550, which would ban the sale of all flavored tobacco products in Maine, would have a dramatic impact on reducing tobacco use among youth, and would help curb the long-term illness, disease and death caused by tobacco addiction across the state. Maine has long been a national leader in its commitment to reducing the death and disease from tobacco use, so it is heartening to see that you continue to take thoughtful, evidenced-based steps to reduce the number of kids who start using tobacco and help tobacco users quit. Even though Maine has made great strides in reducing tobacco use, tobacco use remains the number one preventable cause of premature death and disease in Maine and the nation, killing over 2,400 Mainers every year.¹

Prohibiting the sale of all flavored tobacco products, including menthol cigarettes and flavored cigars and e-cigarettes, is a critical step that will help protect Maine kids from the unrelenting efforts of the tobacco industry to hook them to a deadly addiction. Flavored tobacco products are designed to alter the taste and reduce the harshness of tobacco products so they are more appealing and easy for beginners, who are almost always kids. These products are available in a wide assortment of flavors – like gummy bear, cotton candy, peanut butter cup, cookies 'n cream and pop rocks for e-cigarettes and chocolate, watermelon, lemonade and cherry dynamite for cigars. Tobacco companies are making and marketing deadly and addictive products that look and taste like a new line of flavors from a Ben and Jerry's ice cream store. This growing market of flavored tobacco products is undermining Maine's progress in reducing youth tobacco use.

The youth e-cigarette epidemic creates an immediate crisis that demands urgent action, but equally urgent action is needed to address a public health crisis that has gotten less attention, but over the years has done even greater harm: the marketing and sale of all other flavored tobacco products, especially menthol cigarettes. Banning the sale of all flavored tobacco products is one of the most important things you can do to protect the health of Maine's kids, reverse health disparities in the State, and prevent the 2,400 deaths in Maine each year that are due to tobacco use.

Finally, as Maine continues to combat the novel coronavirus (COVID-19), it has never been more important to take every measure possible to keep our lungs healthy. According to the Centers for Disease Control and Prevention (CDC), **“being a current or former cigarette smoker increases your risk of severe illness from COVID-19.”**² The coronavirus attacks the lungs, and behaviors that weaken the lungs put individuals at greater risk. The harmful impact of smoking on the lungs is well-documented, and there is growing evidence that e-cigarette use (vaping) can also harm lung health. Further, data on COVID-19 patients have revealed that comorbidities such as heart disease, cancer, and diabetes increases the risk for becoming severely ill from the coronavirus.³ Smoking is also a major cause of these underlying conditions. As Maine works to limit the impact of the coronavirus, there has never been a better or more urgent time to enact policies to help people quit smoking and vaping, and prevent young people from ever starting.

In recognition of the health harms caused by flavored tobacco, a growing group of states and communities has taken action to prohibit the sale of flavored tobacco. In November 2019, Massachusetts became the first state to enact a comprehensive ban on the sale of all flavored tobacco products. Massachusetts was soon followed by prohibitions on the sale of flavored e-cigarettes in New Jersey, New York and Rhode Island, and most recently, California enacted a prohibition on the sale of most flavored tobacco products, including menthol cigarettes. These five states are joined by a growing list of over 300 cities and counties across the country, with more states and localities poised to act this year. I urge you to join them. Maine needs to be a leader on this issue and pass this legislation without delay.

Menthol Cigarettes Increase Youth Tobacco Use

While e-cigarette use justifiably gets a lot of attention, no other flavored product contributes more to the death and disease caused by tobacco use than menthol cigarettes. The scientific evidence leaves no doubt that menthol cigarettes increase the number of people, particularly kids who try smoking, become addicted and die a premature death as a result. Banning menthol cigarettes addresses both a critical public health issue and a matter of social justice.

Tobacco companies have long known that menthol cigarettes reduce the harshness of their products and make them easier to use by new users, almost all of whom are under age 18.⁴ Menthol imparts a cooling and soothing sensation, masking the harshness of tobacco and making it easier for beginner smokers and kids to tolerate smoking. The FDA’s Tobacco Products Scientific Advisory Committee (TPSAC) concluded that menthol cigarettes increase the number of children who experiment with cigarettes and the number of children who become regular smokers, increasing overall youth smoking. Further, they found that people

who initiate smoking using menthol cigarettes are more likely to become addicted and become long-term daily smokers.⁵

Flavors hook kids and no flavor hooks more kids than menthol cigarettes. They are the single greatest entryway to cigarette smoking. Just like other flavored tobacco products, youth smokers are more likely to use menthol cigarettes than any other age group:

- Half (50.1%) of youth who have ever tried smoking initiated with menthol flavored cigarettes.⁶
- Half (49.8%) of all current high school smokers use menthol cigarettes.⁷

Menthol Cigarettes Have a Devastating Impact on the Health of African Americans and Are a Major Cause of Tobacco-Related Health Disparities

The continued availability of menthol cigarettes threatens the progress Maine has made in reducing adult smoking, particularly among African Americans. Prevalence of menthol use is highest among African Americans – 85% of all African-American smokers smoke menthol cigarettes, compared to 29% of Whites.⁸ The reason that such a high percentage of African-Americans who smoke use menthol cigarettes is the direct result of a conscious and deliberate decision made decades ago by the tobacco industry to target the African-American community. The net result has contributed to African Americans suffering unfairly and disproportionately from tobacco related diseases. Maine is in a position to reduce tobacco caused disparities in this community by enacting legislation that bans the sale of menthol cigarettes. Opponents of banning menthol cigarettes like to talk about possible unintended consequences, but the undeniable consequences from menthol smoking are higher rates of death and disease, with a disproportionate impact among African Americans.

Both TPSAC's and FDA's own scientific analyses conclude that menthol cigarettes are associated with increased nicotine dependence and reduced success in smoking cessation.⁹ The impact is greatest for African Americans, who predominantly smoke menthol cigarettes. African Americans generally have higher levels of nicotine dependence as a consequence of their preference for mentholated cigarettes.¹⁰ While research shows that African American smokers are highly motivated to quit smoking and are more likely than White smokers to have made a quit attempt and used counseling services in the previous year, they are less likely than White smokers to successfully quit smoking.¹¹ Data from the 2015 National Health Interview Survey show that, among smokers who made a quit attempt in the past year, only 4.9% of African Americans remained abstinent after 6 months, compared to 7.1% of Whites.¹²

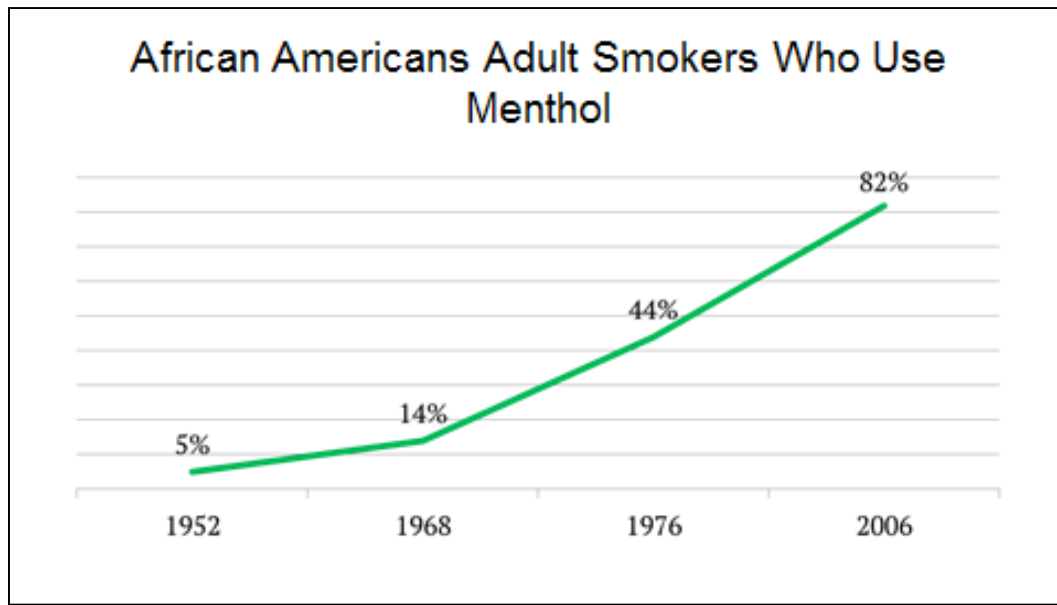
Smoking kills 45,000 African American each year.¹³ Lung cancer is the second most common cancer in both African-American men and women, but it kills more African Americans than any other type of cancer.¹⁴ While the gap has been narrowing, from 2011-2016 the average incidence rate of lung and bronchial cancers was still 15% higher in African-American men compared to white men and the average death rate was 18% higher in African-American men compared to white men.¹⁵ If current smoking rates persist, an estimated 1.6 million black Americans alive today under the age of 18 will become regular smokers, and about 500,000 will die prematurely from a tobacco-related disease.¹⁶ In 2011, TPSAC estimated that by 2020, 4,700 excess deaths in the African American community will be attributable to menthol in cigarettes, and over 460,000 African Americans will have started smoking because of menthol in cigarettes.¹⁷

In addition to the documented disparity in menthol cigarette use among African Americans, new research shows that use of menthol cigarettes is also disproportionately high among Hispanic smokers, lesbian, gay, and bisexual smokers, smokers with mental health problems, socioeconomically disadvantaged populations, and pregnant women.¹⁸

Prohibiting the sale of menthol cigarettes will help to reverse health disparities and accelerate the decline in smoking rates across Maine. Cigarette sales data show that declines in menthol cigarette sales lag behind those of non-menthol cigarettes. From 2009 to 2018, sales of non-menthol cigarettes have declined by 33.1% nationally, while sales of menthol cigarettes have declined by only 8.2%. Of the decline in cigarette sales between 2009 and 2018, 91% is attributable to non-menthol cigarettes.¹⁹ By reducing smoking cessation, menthol has slowed the progress in reducing overall smoking.

The Tobacco Industry Targets African Americans and Youth with Menthol Cigarette Marketing

The tobacco industry wants you to believe that African Americans have always smoked menthol cigarettes, but the use of menthol cigarettes among African Americans seen today is no coincidence and it doesn't reflect an inherent preference for menthol cigarettes by African Americans. This disparity is a direct result of a decades-long marketing campaign by the tobacco industry. Just 5% of African Americans smoked menthol cigarettes in the early 1950's; by 1968 the number had risen to 14%, and today the number is now well over 80%.²⁰ Make no mistake—this is a crisis that is the direct result of the conscious decisions of the major tobacco companies.



Slide Courtesy of Phillip S. Gardiner

http://www.acbhcs.org/tobacco/docs/conference/Dr_Gardiner_Tob_I

Decades of research and the tobacco industry's internal documents demonstrate that the industry knowingly employed campaigns and strategies to aggressively target African Americans. Dating back to the 1950s, the tobacco industry has targeted these communities with marketing for menthol cigarettes through sponsorship of community and music events, targeted magazine advertising, youthful imagery, and marketing in the retail environment. Many of these efforts, including the Kool Inner City Music Program and the Newport Van Program, which distributed free samples of menthol cigarettes, targeted African American neighborhoods in cities across the nation.²¹

The tobacco industry has also used popular African American magazines like *Ebony* and *Jet* to advertise menthol cigarettes to African Americans since the 1960s, and this practice continues today. From 1998 to 2002, *Ebony*, a magazine tailored to the African American culture, was 9.8 times more likely than *People* to contain ads for menthol cigarettes.²² An assessment of menthol cigarette ads run from June 2012 to February 2013 found that the tobacco industry spent an estimated \$31 million on menthol cigarette direct mail, email, print and online advertisements in just a 9-month period. During this time, 61 percent of Newport print ads featured at least one African-American model. These ads ran in twenty publications including *Jet*, *Ebony*, and *Essence*, which have predominantly African-American readership.²³

1966



1984



2004



Images courtesy of Stanford Research Into the Impact of Advertising (SRITA) and TrinketsandTrash.Org.

In magazines and other marketing materials, the industry used advertisements characterized by slogans, relevant and specific messages, or images that have a great appeal among those in the black community or depict African Americans in an appealing light.²⁴ In 2004, Brown & Williamson started an ad campaign for their Kool brand cigarettes clearly aimed at youth—and African-American youth, in particular. The Kool Mixx campaign featured images of young rappers, disc jockeys and dancers on cigarette packs and in advertising. The campaign also included radio giveaways with cigarette purchases and a Hip-Hop disc jockey competition in major cities around the country. The themes, images, radio giveaways and music involved in the campaign all clearly have tremendous appeal to youth, especially African-American youth. Attorneys General from several states promptly filed motions against Brown & Williamson for violating the Master Settlement Agreement.²⁵

This targeting continues today: magazine advertisements continue to target African Americans and menthol cigarettes continue to be heavily advertised, widely available, and priced cheaper in certain African American communities, making them more appealing, particularly to price-sensitive youth.²⁶ Nationally, Newport cigarettes (the most popular menthol brand among African Americans) are significantly less expensive in neighborhoods with higher proportions of African Americans.²⁷ A wealth of research indicates that African-American neighborhoods have a disproportionate number of tobacco retailers, more price discounts for tobacco products, pervasive tobacco marketing, and in particular, more marketing of menthol products.²⁸

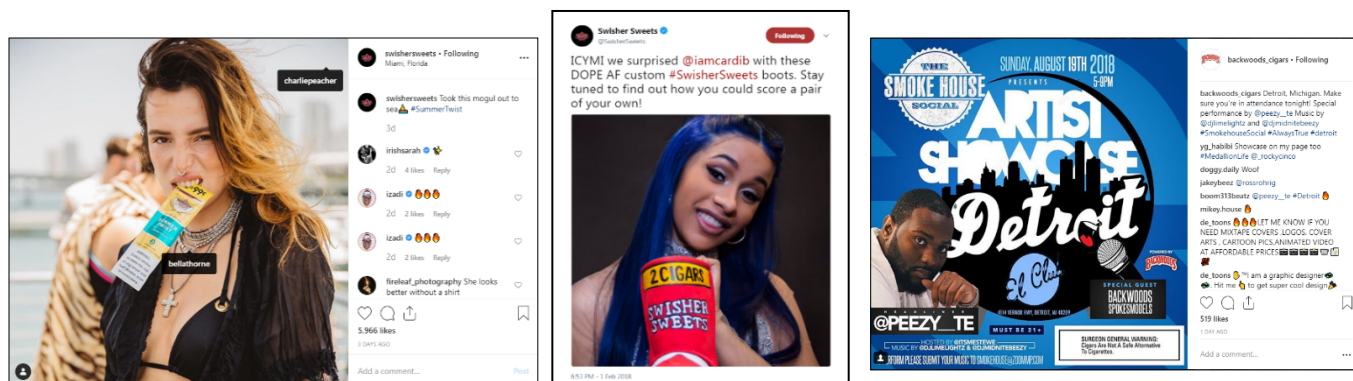
Flavored Cigars Remain Popular Among Youth, Especially African Americans

In recent years, cigars have surpassed cigarettes in popularity among young people, and they are disproportionately used by Black youth. Today, 5% of U.S. high school students smoke cigars (vs. 4.6% for cigarettes). Rates are higher among boys (5.4%) and among Blacks (9.2%).²⁹

A primary reason for the popularity of cigars among youth is the wide array of available flavors. In fact, 73.8% of youth cigar smokers smoked cigars “because they come in flavors I like.”³⁰ Flavored cigars have proliferated in recent years and now make up more than half the U.S. cigar market.³¹ Sales of cigars (i.e., large cigars, cigarillos, and small cigars) have more than doubled between 2000 and 2019, and much of the growth is attributable to smaller types of cigars, many of which are flavored and inexpensive (e.g., 3 or 4 cigars for 99 cents).³² There are over 250 cigar flavors, including of “Banana Smash,” Brownie, and Strawberry Kiwi.³³ Cheap, sweet cigars can serve as an entry product for kids to a lifetime of smoking.



Similar to e-cigarettes, cigars are marketed using social media, hip hop and rap music event sponsorship, celebrity endorsements and point-of-sale promotions.³⁴



FDA has concluded that “all cigars pose serious negative health risks” and that “all cigar use is harmful and potentially addictive.”³⁵ According to the National Cancer Institute, smoking cigars causes serious health consequences, including cancer of the oral cavity, larynx, esophagus and lung, and cigar smokers are also at increased risk for aortic aneurysms.³⁶ Each year, about 9,000 Americans die prematurely from regular cigar use.³⁷ Cigar smoke is composed of the same toxic and carcinogenic constituents found in cigarette smoke.³⁸

In addition, there is mounting evidence that youth use of cigars is associated with subsequent uptake of cigarette smoking. According to an analysis of data from the FDA’s PATH study, decreasing the cigar use among youth could prevent up to 4.6% of youth cigarette initiation overall and 9.1% among Black youth specifically.³⁹

Youth E-Cigarette Use Remains an Epidemic

We are at a critical juncture in our nation’s public health history. After making tremendous progress in reducing youth tobacco use over the past several decades, e-cigarettes are undermining these declines in overall youth tobacco use. While new data show e-cigarette use decreased among U.S. youth in 2020, it remains at epidemic levels. Among high school students, e-cigarette use declined to 19.6% in 2020, after increasing by 135% from 2017 to 2019 (from 11.7% to 27.5%).⁴⁰ 3.6 million kids still use e-cigarettes – the same number as when the U.S. Surgeon General called youth e-cigarette use an “epidemic” in 2018.⁴¹ In Maine, 46.3% of high schoolers had ever used e-cigarettes in 2019, an increase of 33% over 2017.⁴²

Nationally, the rise in e-cigarette use has driven an increase in the use of any tobacco product among youth. In 2020, nearly one out of four (23.6%) high school students were current (past-month) users of some type of tobacco product, and there has been no progress in reducing overall tobacco use in a decade.⁴³ There is no doubt that e-cigarettes are reversing decades of progress that Maine has made in reducing youth tobacco use and are addicting a new generation of kids. In Maine, 30.2% of high school students were current e-cigarette users in 2019, and 9.4% (more than 30% of users) used vapor products at least 20 days a month, which is considered a strong indicator of addiction.⁴⁴

Flavored E-Cigarettes Have Fueled the Popularity of These Products Among Kids

The evidence is clear that flavored e-cigarettes, like mint, mango and gummy bear, have fueled this epidemic. In recent years, there has been an explosion of sweet-flavored e-cigarettes. As of 2017, there were more than 15,500 unique e-cigarette flavors available online, including many kid-friendly flavors like gummy bear, cotton candy, and peanut butter cup.⁴⁵ In January 2020,

the FDA restricted some flavors in cartridge-based e-cigarettes, but exempted menthol-flavored e-cigarettes and left flavored e-liquids and disposable e-cigarettes widely available in every imaginable flavor. As a result, the market share of these products has grown substantially:

- The market share of disposable e-cigarettes more than doubled between January 26 and November 29, 2020, from 15.2% to 33.9%.⁴⁶
- As of November 29, 2020, menthol-flavored products accounted for 42.5% of total e-cigarette sales. Sales of menthol flavored e-cigarettes increased by 55.9% between January 26 and November 29, 2020, from 5.3 million units to 8.3 million units.⁴⁷

Research shows that flavored products are not only popular among youth, but play a role in initiation and uptake of tobacco products. As the recent Surgeon General Report on Smoking Cessation succinctly stated, “the role of flavors in promoting initiation of tobacco product use among youth is well established.”⁴⁸ The 2016 Surgeon General Report on e-cigarettes concluded that flavors are among the most commonly cited reasons for using e-cigarettes among youth and young adults.⁴⁹

- The 2020 NYTS found that an increasing proportion of youth e-cigarette users reported using flavored products in 2020 (82.9%, up from 68.8% in 2019).⁵⁰ Nearly 3 million youth use flavored e-cigarettes.⁵¹ Among high school students who currently used any type of flavored e-cigarette, the most commonly used flavor types were fruit (73.1%), mint (55.8%), menthol (37%), and candy, desserts, or other sweets (36.4%).⁵²
- While fruit and mint flavors are now prohibited in cartridge-based e-cigarettes, disposable e-cigarettes come in a wide array of kid-friendly flavors, like cotton candy, strawberry, and mint, which have become increasingly popular among kids. Among high school current e-cigarette users, use of disposable e-cigarettes increased by 1,000% from 2019 to 2020 (from 2.4% to 26.5%).⁵³ Among current youth users of disposable e-cigarettes, the most commonly used flavor type is fruit (82.7%), followed by mint (51.9%).⁵⁴
- Data from the 2016-2017 wave of the government’s Population Assessment for Tobacco and Health (PATH) study found that 70.3% of current youth e-cigarette users say they use e-cigarettes “because they come in flavors I like.”⁵⁵

If anything, these official government figures under report the percentage of youth who use flavored e-cigarettes. Prior to schools being closed due to COVID-19, if you spoke with any teacher, school principal or high school student, they would tell you that virtually every kid who

uses an e-cigarette, uses a flavored e-cigarette. It is the reason that banning flavored e-cigarettes is an essential step in reversing the youth e-cigarette epidemic. Anything less will fail.



As with menthol cigarettes, e-cigarettes didn't become popular with kids by accident. E-cigarette makers have introduced products with thousands of flavors that appeal to young people and engaged in the kind of marketing that mirrors what the cigarette industry did for decades. The 2016 Surgeon General Report on e-cigarettes concluded that, **"E-cigarettes are marketed by promoting flavors and using a wide variety of media channels and approaches that have been used in the past for marketing conventional tobacco products to youth and young adults."**⁵⁶

The use of flavors in e-cigarette products is of even greater concern because e-cigarettes are the subject of extensive advertising campaigns, and there is evidence that young people are exposed to significant amounts of e-cigarette advertising. By mimicking the tobacco industry's strategies, including celebrity endorsements, slick TV and magazine advertisements, and sports and music sponsorships, e-cigarette advertising has effectively reached youth and young adults. The 2019 NYTS found that 7 out of 10 middle and high school students—18.3 million youth—report being exposed to e-cigarette advertisements.⁵⁷

When Juul was first launched in 2015, the company used colorful, eye-catching designs and youth-oriented imagery and themes, such as young people dancing and using Juul. Juul's original marketing campaign included billboards, YouTube videos, advertising in Vice Magazine, launch parties and a sampling tour. A report by Stanford University researchers concluded that Juul's launch marketing was "patently youth oriented" and closely resembled the themes and tactics used by the tobacco industry for decades.⁵⁸ Posts on social media platforms like Twitter and Instagram also fueled Juul's popularity among youth.⁵⁹ Social media promotion included influencers – social media stars with large numbers of online followers who were paid to recommend Juul and post photos with the product. These influencers created tremendous interest and enthusiasm for the product.

Countless e-cigarette brands have subsequently followed Juul's playbook to target kids with marketing for similar pod-based products like Reynolds' Vuse,⁶⁰ as well as newer disposable e-cigarettes like Puff Bar and open systems like Smok and Suorin. E-cigarette companies market extensively on product websites and maintain a strong presence on social media sites popular among youth, like Facebook, YouTube, Instagram, and Twitter.⁶¹ E-cigarette manufacturers have also placed ads on search engines and websites that focus on music, entertainment, and sports and which often have substantial youth and young adult audiences.⁶²

Juul claims that it has "voluntarily" stopped marketing on social media, but Juul made that announcement only after it faced severe public criticism. There is nothing to prevent Juul from reversing its public position about where and how it will market its products as soon as public scrutiny fades. Indeed, in other countries Juul has engaged in the type of marketing and advertising that fueled the US youth e-cigarette epidemic so that its decision in the US should be seen as nothing more than a temporary effort to deflect public scrutiny and certainly not a corporate commitment to stop marketing to kids. Government action is the only way to protect our kids.

Youth E-cigarette Users Struggle with Nicotine Addiction

The number of youth now using e-cigarettes is alarming and the evidence is growing that e-cigarettes increases the susceptibility to long term addiction. The data are clear that youth who are using e-cigarettes are not just experimenting, but are becoming addicted at levels that have not been seen among kids who use cigarettes in decades.

- The proportion of youth who use e-cigarettes frequently is growing. In 2020, 38.9% of high school users (up from 34.2% in 2019) and 20% of middle school users (up from 18% in 2019) were frequent users of e-cigarettes, reporting use on at least 20 of the preceding 30 days.⁶³
- Alarming, 22.5% of high school users and 9.4% of middle school users reported daily use, a strong indication of addiction.⁶⁴
- This amounts to 1.3 million middle and high school students who were frequent users of e-cigarettes, including over 730,000 daily users.⁶⁵

Similarly, data from Maine's 2019 Youth Risk Behavior Survey (YRBS) reflect similar levels in frequent use of e-cigarettes. In 2019, frequent use (20+ days/month) of e-cigarettes among Maine high school students was 9.4% overall, or 31.1% of users. More strikingly, this represents a 400% increase over the amount of frequent use in 2017 (2.3%)⁶⁶

Though there is insufficient research on the long-term effects of using e-cigarettes in general, there is a growing body of evidence of immediate harms, many of which are caused by the intense addiction caused by the high levels of nicotine these products deliver. Nicotine is a highly addictive drug and young people are especially vulnerable to nicotine addiction. Nicotine can have lasting damaging effects on adolescent brain development, because brain development continues until about age 25. According to the Surgeon General, “because the adolescent brain is still developing, nicotine use during this critical period can disrupt the formation of brain circuits that control attention, learning, and susceptibility to addiction.”⁶⁷ Because of these risks, the Surgeon General found that, “The use of products containing nicotine in any form among youth, including in e-cigarettes, is unsafe.”⁶⁸

The observable immediate harms from e-cigarette use have increased since the introduction of Juul and Juul like products. Since the introduction of Juul, youth are now using products that effectively deliver very large doses of nicotine. Juul pioneered a new e-liquid formulation that delivers nicotine more effectively and with less irritation than earlier e-cigarette models. According to the company, the nicotine in Juul is made from “nicotine salts found in leaf tobacco, rather than free-base nicotine,” in order to “accommodate cigarette-like strength nicotine levels.”⁶⁹ A 2018 Surgeon General advisory on e-cigarette use among youth warned that nicotine salts allow users to inhale high levels of nicotine more easily and with less irritation than e-cigarettes that use free-base nicotine. As a result, it is easier for young people to initiate the use of nicotine with these products.⁷⁰ A single Juul pod can deliver as much nicotine as a pack of cigarettes.⁷¹ One study estimated that youth could meet the threshold for nicotine addiction by consuming just one quarter of a Juul pod per day.⁷² And yet, research has also found that many young Juul users often do not know the products they are using contains nicotine.⁷³

Juul’s competitors, seeking to emulate the company’s success, have since flooded the U.S. market with similar pod-based e-cigarettes, including some that have nicotine levels even higher than Juul’s, resulting in what some researchers have referred to as a “nicotine arms race.”⁷⁴ Many of these companies offer devices and pods that are cheaper than Juul and in a wider variety of kid-friendly flavors.⁷⁵ NYTS data show that Juul was overwhelmingly the most popular e-cigarette among youth (preferred by 59% of high school e-cigarette users), but other products like Suorin and Smok, are becoming popular as well.⁷⁶ As noted previously, disposable e-cigarettes have increased in popularity among youth, due to their exemption from federal policy on flavored e-cigarettes. Disposable e-cigarettes are sleek, easily concealed, pre-charged, cheap (some for less than \$5), available in a wide variety of flavors, and can even have higher nicotine concentrations than Juul.⁷⁷ Disposables come in an array of kid-friendly flavors, including cotton candy, iced apple mango, strawberry, and mint. These products are packed

with nicotine, with some reaching up to 7.0% nicotine (a higher nicotine concentration than Juul).⁷⁸ Companies market these products as accessible and easy to use. Ready to use right out of the box, manufacturers tout the instant flavor hit and encourage users to try a variety of flavors.

These statistics are confirmed by parents and pediatricians across the country. E-cigarette use, has permeated the daily life of hundreds of thousands of youth. It is clear that large numbers of teen e-cigarette users are struggling with nicotine addiction and withdrawal. The problem is so bad that FDA convened a public hearing to gather input on how to help youth addicted to the nicotine in e-cigarettes. No one is quite sure how to help these youth quit. Banning flavored e-cigarettes will prevent these kids from ever getting hooked.

Youth E-Cigarette Users Are At Increased Risk of Smoking Cigarettes

E-cigarettes are addicting a new generation of kids and threaten to reverse decades of progress in reducing youth tobacco use. Alarming, evidence also continues to build that e-cigarette use in young people increases the likelihood of smoking cigarettes.

- In 2016, the Surgeon General concluded that while more research is needed, evidence from several longitudinal studies suggests that e-cigarette use is “strongly associated” with the use of other tobacco products among youth and young adults, including conventional cigarettes.⁷⁹
- In 2018, the National Academies of Science, Engineering & Medicine (NASEM) released a comprehensive report finding substantial evidence that e-cigarette use increases risk of ever using cigarettes among youth and young adults. The NASEM report also concluded, “There is moderate evidence that e-cigarette use increases the frequency of subsequent combustible tobacco cigarette use” among youth and young adults.⁸⁰
- An analysis of PATH data found that from 2013 to 2016, youth (ages 12-15) e-cigarette use was associated with more than four times the odds of trying cigarettes and nearly three times the odds of current cigarette use. The researchers estimate that this translates to over 43,000 current youth cigarette smokers who might not have become smokers without e-cigarettes.⁸¹

Multiple studies have also demonstrated that many youth who use e-cigarettes are kids who are among those least at risk of cigarette smoking. For these kids, e-cigarettes are not replacing cigarettes, they are turning non-tobacco users into tobacco users.⁸²

FDA Has Failed To Use Its Regulatory Authority Over E-Cigarettes to Protect Kids

Although Congress gave FDA broad regulatory authority over tobacco products in the Family Smoking Prevention and Tobacco Control Act of 2009 (Tobacco Control Act), the agency has largely failed to use that authority to regulate e-cigarettes.⁸³ Delayed regulation by the FDA necessitates state action to protect Maine's youth.

Despite the requirement in the Tobacco Control Act that new tobacco products (i.e. those introduced after February 15, 2007) obtain an FDA order authorizing their marketing,⁸⁴ not a single e-cigarette product currently on the market has been reviewed and authorized by the FDA. Thus, it is essential for Maine and other states to utilize their authority to protect the health of its residents and especially its youth.

FDA's enforcement policy announced on January 2, 2020 is wholly inadequate to address the youth vaping epidemic. While the policy restricts some flavors in pod-based e-cigarettes, it leaves thousands of kid-friendly e-cigarettes on the market, including:

- Disposable e-cigarettes like Puff Bar and Mojo that are cheap, sold in a wide assortment of kid-friendly flavors like banana ice and pink lemonade, and can deliver massive doses of nicotine.
- Nicotine e-liquids sold in over 15,000 flavors.
- Sleek, refillable e-cigarette devices like Smok and Suorin.
- Menthol varieties of Juul and other cartridge/pod-based e-cigarettes.



Data released this past fall show that the FDA missed the opportunity to make far greater progress in reducing youth e-cigarette use as kids quickly migrated to the flavored products that were exempt from the policy:

- In 2020, 80% of 10th and 12th grade e-cigarette users reported that they could still easily obtain nicotine solutions in flavors other than tobacco or menthol.⁸⁵
- From 2019 to 2020, use of disposable e-cigarettes increased by 1,000% (from 2.4% to 26.5%) among high school e-cigarette users and by 400% (from 3.0% to 15.2%) among middle school e-cigarette users.⁸⁶
- In 2020, 37% of youth e-cigarette users, including 44.5% of users of refillable cartridge systems like Juul, reported using menthol-flavored products.⁸⁷
- As of November 29, 2020, menthol-flavored products accounted for 42.5% of total e-cigarette sales. Sales of menthol-flavored e-cigarettes increased by 55.9% between January 26, 2020 and November 29, 2020, from 5.3 million units to 8.3 million units. Sales of menthol-flavored cartridge-based products like Juul increased by 60% over this same time.⁸⁸

Only the elimination of all flavored e-cigarettes can end the worsening youth e-cigarette epidemic and stop e-cigarette companies from luring and addicting kids with flavored products. LD 1550 will protect Maine's kids by eliminating the gaping loopholes in the FDA's policy.

Conclusion

We in the middle of an epidemic in youth e-cigarette use. Parents, school officials, and health care providers from across the country have recognized that a new generation of young people are becoming addicted to nicotine with potentially devastating long term consequences. In addition, largely because of the marketing of flavored cigars and menthol cigarettes, higher rates of smoking and other forms of tobacco use persist among populations the tobacco industry has targeted, especially African Americans, burdening these communities with higher rates of cancer, heart disease, and pulmonary disease attributable to tobacco use. These challenges will not go away absent strong, clear and decisive government action.

The scientific evidence leaves no doubt that flavored tobacco products, including flavored e-cigarettes and menthol cigarettes, increase the number of people, particularly kids, who initiate tobacco use and become addicted. Prohibiting the sale of menthol cigarettes and other flavored tobacco products is an essential step toward protecting our children and our community from the tobacco industry's aggressive efforts to hook children to these dangerous, addictive products. This issue is quite simple—it is about common sense and protecting our kids and populations that the tobacco industry has targeted and continues to target.

Eliminating health disparities and many of the factors that disproportionately impact many of our citizens can be complicated and difficult to solve. But we have the tools and ability to dramatically reduce the health disparities caused by tobacco use in our state. We urge you to pass LD 1550 without any weakening amendments as quickly as possible.

Thank you for the opportunity to testify on this important issue.

¹ National: U.S. Department of Health and Human Services (HHS), “The Health Consequences of Smoking – 50 Years of Progress A Report of the Surgeon General 2014. State: Centers for Disease Control and Prevention (CDC), *Best Practices for Comprehensive Tobacco Control Programs—2014*, http://www.cdc.gov/tobacco/stateandcommunity/best_practices/.

² CDC, “People with Certain Medical Conditions,” accessed October 21, 2020, <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html>.

³ CDC, “People with Certain Medical Conditions,” accessed January 21, 2021, <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html>.

⁴ HHS, *Preventing Tobacco Use Among Youth and Young Adults, A Report of the Surgeon General*, 2012, <http://www.cdc.gov/Features/YouthTobaccoUse/>.

⁵ TPSAC, FDA, “Menthol Cigarettes and Public Health: Review of the Scientific Evidence and Recommendations, 2011,” <https://wayback.archive-it.org/7993/20170405201731/https://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/TobaccoProductsScientificAdvisoryCommittee/UCM269697.pdf>.

⁶ Ambrose, BK, et al., “Flavored Tobacco Product Use Among US Youth Aged 12-17 Years, 2013-2014,” *Journal of the American Medical Association*, published online October 26, 2015.

⁷ Wang, TW, et al., “Tobacco Product Use and Associated Factors Among Middle and High School Students—United States, 2019,” *MMWR* 68(12), December 6, 2019, <https://www.cdc.gov/mmwr/volumes/68/ss/pdfs/ss6812a1-H.pdf>.

⁸ Villanti, A., et al., “Changes in the prevalence and correlates of menthol cigarette use in the USA, 2004–2014,” *Tobacco Control*, published online October 20, 2016

⁹ TPSAC, Menthol Cigarettes and Public Health: Review of the Scientific Evidence and Recommendations, July 21, 2011

<http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/TobaccoProductsScientificAdvisoryCommittee/UCM269697.pdf>

¹⁰ FDA, “Preliminary Scientific Evaluation of the Possible Public Health Effects of Menthol Versus Nonmenthol Cigarettes,”

<http://www.fda.gov/downloads/ScienceResearch/SpecialTopics/PeerReviewofScientificInformationandAssessments/UCM361598.pdf>, 2013;

Tobacco Products Scientific Advisory Committee, FDA, “Menthol Cigarettes and Public Health: Review of the Scientific Evidence and Recommendations, 2011,”

<http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/TobaccoProductsScientificAdvisoryCommittee/UCM269697.pdf>; Alexander, LA, et al., “Why we must continue to investigate menthol’s role in the African American smoking paradox,” *Nicotine & Tobacco Research*, 18(S1): S91-S101, 2016;

¹¹ See e.g., CDC, “Quitting Smoking Among Adults—United States, 2000-2015,” *MMWR*, 65(52): 1457-1464, January 6, 2017, <https://www.cdc.gov/mmwr/volumes/65/wr/pdfs/mm6552a1.pdf>. Royce, J, et al., “Smoking cessation factors among African Americans and Whites: COMMIT Research Group,” *American Journal of Public Health* 83(2):220-6, February 1993.

<https://www.fda.gov/advisoryCommittees/CommitteesMeetingMaterials/tobaccoproductsScientificAdvisoryCommittee/default.htm>

¹² CDC, “Quitting Smoking Among Adults—United States, 2000-2015,” *MMWR*, 65(52): 1457-1464, January 6, 2017, <https://www.cdc.gov/mmwr/volumes/65/wr/pdfs/mm6552a1.pdf>.

¹³ US Department of Health and Human Services (HHS), “Tobacco Use Among US Racial/Ethnic Minority Groups—African Americans, American Indians and Alaskan Natives, Asian Americans and Pacific Islanders, and Hispanics: A Report of the Surgeon General,” 1998, http://www.cdc.gov/tobacco/data_statistics/sgr/1998/complete_report/pdfs/complete_report.pdf.

¹⁴ American Cancer Society, “Cancer Facts & Figures for African Americans, 2016-2018,” 2016, <http://www.cancer.org/acs/groups/content/@editorial/documents/document/acspc-047403.pdf>.

¹⁵ American Cancer Society, *Cancer Facts & Figures 2019*, <https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2019/cancer-facts-and-figures-2019.pdf>.

-
- ¹⁶ HHS, "Tobacco Use Among US Racial/Ethnic Minority Groups—African Americans, American Indians and Alaskan Natives, Asian Americans and Pacific Islanders, and Hispanics: A Report of the Surgeon General," 1998, http://www.cdc.gov/tobacco/data_statistics/sgr/1998/complete_report/pdfs/complete_report.pdf.
- ¹⁷ TPSAC, FDA, "Menthol Cigarettes and Public Health: Review of the Scientific Evidence and Recommendations, 2011, <http://www.fda.gov/downloads/AdvisoryCommittees/CommitteesMeetingMaterials/TobaccoProductsScientificAdvisoryCommittee/UCM269697.pdf>.
- ¹⁸ Cristine D. Delnevo, et al., "Banning Menthol Cigarettes: A Social Justice Issue Long Overdue," *Nicotine & Tobacco Research*, 22(10): 1673-1675, 2020.
- ¹⁹ Christine D. Delnevo, et al., *Assessment of Menthol and Nonmenthol Cigarette Consumption in the US, 2000 to 2018*, 3 JAMA Network Open e2013601, 2020, <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2769132>.
- ²⁰ Slide credit: Phillip S. Gardiner http://www.acbhc.org/tobacco/docs/conference/Dr_Gardiner_Tob_Industry_AA_Menthol.pdf
Sources include: Gardiner, PS, "The African Americanization of menthol cigarette use in the United States," *Nicotine & Tobacco Research*, February 2004; Roper, B.W. (1953). A Study of People's Cigarette Smoking Habits and Attitudes Volume I. Philip Morris, Bates No. 2022239249; MSA, Inc. (1978) The Growth of Menthols, 1933 -1977; Brown & Williamson, Bates No. 670586709-785; National Survey on Drug Use and Health, 2004-2008.
- ²¹ Yerger, VB, et al., "Racialized geography, corporate activity, and health disparities: Tobacco industry targeting of inner cities," *Journal of Health Care for the Poor and Underserved*, 18: 10-38, 2007. See also RJ Reynolds. Black Street Scenes: review and recommendations. Winston-Salem, NC: R.J. Reynolds Tobacco Company, 1983. Available at <http://legacy.library.ucsf.edu/tid/onb19d00>.
- ²² Landrine, H, et al., "Cigarette advertising in Black, Latino and White magazines, 1998-2002: An exploratory investigation," *Ethnic Disparities* 15(1):63-7, 2005.
- ²³ Richardson, A, et al., "How the industry is marketing menthol cigarettes: the audience, the message, and the medium," *Tobacco Control*, 24: 594-600, 2015.
- ²⁴ Hutchinson, EO, "Joe Camel Dominants More Than Billboards in Black America," June 23, 1997, <http://www.pacificnews.org/jinn/stories/3.13/970623-cigarettes.html>
- ²⁵ Hafez, N, & Ling, P, "Finding the Kool Mixx: how Brown & Williamson used music marketing to sell cigarettes," *Tobacco Control*, 15: 359-366, 2006.
- ²⁶ Rodriguez, D, et al., "Predictors of tobacco outlet density nationwide: a geographic analysis," *Tobacco Control* 22(5):349-55, 2013. See also Lee, JG, et al., "Inequalities in tobacco outlet density by race, ethnicity and socioeconomic status, 2012, USA: results from the ASPIRE Study," *Journal of Epidemiology and Community Health* 71(5):487-492, 2017. Henriksen, L, et al., "Targeted Advertising, Promotion, and Price for Menthol Cigarettes in California High School Neighborhoods," *Nicotine & Tobacco Research* 14(1):116-21, 2012.
- ²⁷ Resnick, EA, et al., *Cigarette Pricing Differs by U.S. Neighborhoods—A BTG Research Brief*. Chicago, IL: Bridging the Gap Program, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago, 2012, www.bridgingthegapresearch.org.
- ²⁸ Moreland-Russell, S, et al., "Disparities and Menthol Marketing: Additional Evidence in Support of Point of Sale Policies," *International Journal of Environmental Research and Public Health*, 10: 4571-4583, 2013. Schleicher, N, et al., "Tobacco Marketing in California's Retail Environment (2008-2011), Final report for the California Tobacco Advertising Survey. Stanford, CA: Stanford Prevention Research Center, July 2013. Henriksen, L, et al., "Targeted Advertising, Promotion, and Price for Menthol Cigarettes in California High School Neighborhoods," *Nicotine & Tobacco Research*, June 24, 2011. Seidenberg, AB, "Cigarette Advertising Differs by Community Demographic Profile," *American Journal of Health Promotion* 24(6):e26-e31, July/August 2010.
- ²⁹ Gentzke, A, et al., "Tobacco Product Use Among Middle and High School Students—United States, 2020," *MMWR* 69(50): 1881-1888, December 18, 2020, <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6950a1-H.pdf>.
- ³⁰ Ambrose, BK, et al., "Flavored Tobacco Product Use Among US Youth Aged 12-17 Years, 2013-2014," *Journal of the American Medical Association*, published online October 26, 2015.
- ³¹ Delnevo, CD, Giovenco, DP, & Miller, EJ, "Changes in the Mass-merchandise Cigar Market since the Tobacco Control Act," *Tobacco Regulatory Science*, 3(2 Suppl 1):S8-S16, 2017.
- ³² U.S. Alcohol and Tobacco Tax and Trade Bureau (TTB), Tobacco Statistics.
- ³³ Delnevo, CD, et al., "Changes in the mass-merchandise cigar market since the Tobacco Control Act," *Tobacco Regulatory Science*, 3(2 Suppl 1): S8-S16, 2017.
- ³⁴ Ganz, O, et al., "Swisher Sweets 'Artist Project': using musical events to promote cigars," *Tobacco Control*, published online February 8, 2018.
- ³⁵ 81 Federal Register 29020, 29022 (May 10, 2016).
- ³⁶ NCI, *Cigars: Health Effects and Trends. Smoking and Tobacco Control Monograph No. 9*, 1998, http://cancercontrol.cancer.gov/Brp/tcrb/monographs/9/m9_complete.pdf. See also, Baker, F, et al., "Health Risks Associated with Cigar Smoking," *Journal of the American Medical Association* 284(6):735-740, 2000. See also,

- Shapiro, JA, Jacobs, EJ, Thun, MJ, "Cigar Smoking in Men and Risk of Death From Tobacco-Related Cancers," *Journal of the National Cancer Institute*, 92(4):333-7, February 16, 2000.
- ³⁷ Nonnemaker, J, et al., "Mortality and Economic Costs from Regular Cigar use in the United States, 2010," *American Journal of Public Health* 104(9):e-86-91, September 2014.
- ³⁸ NCI, *Cigars: Health Effects and Trends*, 1998. Chang, CM, et al., "Systematic review of cigar smoking and all cause and smoking related mortality," *BMC Public Health*, doi 10.1186/s12889-015-1617-5, 2015.
- ³⁹ Stokes, A, et al., "Racial/Ethnic Differences in Associations of Noncigarette Tobacco Product Use with Subsequent Initiation of Cigarettes in US Youth," *Nicotine & Tobacco Research*, published online September 19, 2020.
- ⁴⁰ Wang, TW, et al., "E-cigarette Use Among Middle and High School Students – United States, 2020," *MMWR*, Volume 69, September 9, 2020, <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6937e1-H.pdf>.
- ⁴¹ Office of the Surgeon General, "Surgeon General's Advisory on E-Cigarette Use Among Youth," December 18, 2018, <https://e-cigarettes.surgeongeneral.gov/documents/surgeon-generals-advisory-on-e-cigarette-use-among-youth-2018.pdf>.
- ⁴² CDC, 2019 Youth Risk Behavior Survey, Available at <http://nccd.cdc.gov/youthonline/>.
- ⁴³ Gentzke, A, et al., "Tobacco Product Use Among Middle and High School Students—United States, 2020," *MMWR* 69(50): 1881-1888, December 18, 2020, <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6950a1-H.pdf>.
- ⁴⁴ CDC, 2019 Youth Risk Behavior Survey, Available at <http://nccd.cdc.gov/youthonline/>.
- ⁴⁵ Zhu, S-H, et al., "Evolution of Electronic Cigarette Brands from 2013-2014 to 2016-2017: Analysis of Brand Websites," *Journal of Medical Internet Research*, 20(3), published online March 12, 2018.
- ⁴⁶ CDC Foundation, *Monitoring U.S. E-Cigarette Sales: National Trends*, November 2020, <https://www.cdcfoundation.org/E-CigaretteSales-DataBrief-Nov2020?inline>.
- ⁴⁷ CDC Foundation, *Monitoring U.S. E-Cigarette Sales: National Trends*, November 2020, <https://www.cdcfoundation.org/E-CigaretteSales-DataBrief-Nov2020?inline>.
- ⁴⁸ HHS, Office of the Surgeon General, "Smoking Cessation: A Report of the Surgeon General," 2020 <https://www.hhs.gov/sites/default/files/2020-cessation-sgr-full-report.pdf>.
- ⁴⁹ HHS, *E-Cigarette Use Among Youth and Young Adults. A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.
- ⁵⁰ Wang, TW, et al., "E-cigarette Use Among Middle and High School Students – United States, 2020," *MMWR*, Volume 69, September 9, 2020, <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6937e1-H.pdf>.
- ⁵¹ Wang, TW, et al., "E-Cigarette Use Among Middle and High School Students – United States, 2020," *MMWR ePub*, September 9, 2020, <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6937e1-H.pdf>.
- ⁵² Wang, TW, et al., "E-cigarette Use Among Middle and High School Students – United States, 2020," *MMWR*, Volume 69, September 9, 2020, <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6937e1-H.pdf>.
- ⁵³ Wang, TW, et al., "E-cigarette Use Among Middle and High School Students – United States, 2020," *MMWR*, Volume 69, September 9, 2020, <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6937e1-H.pdf>.
- ⁵⁴ Wang, TW, et al., "E-cigarette Use Among Middle and High School Students – United States, 2020," *MMWR*, Volume 69, September 9, 2020, <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6937e1-H.pdf>.
- ⁵⁵ FDA, *Modifications to Compliance Policy for Certain Deemed Products: Guidance for Industry, Draft Guidance*, at 9, March 13, 2019, <https://www.fda.gov/media/121384/download>.
- ⁵⁶ HHS, *E-Cigarette Use Among Youth and Young Adults. A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.
- ⁵⁷ CDC, "Tobacco Product Use and Associated Factors Among Middle and High School Students—United States, 2019," *MMWR*, 68(12), December 6, 2019, <https://www.cdc.gov/mmwr/volumes/68/ss/pdfs/ss6812a1-H.pdf>.
- ⁵⁸ Jackler, RK, et al., "Juul Advertising Over its First Three Years," http://tobacco.stanford.edu/tobacco_main/publications/Juul_Marketing_Stanford.pdf.
- ⁵⁹ Chu, KH, et al., "Juul: Spreading Online and Offline," *Journal of Adolescent Health* 63(5):582-586, 2018.
- ⁶⁰ Maloney, J, "Reynolds American Gains on Juul by Marketing Vaping as Cool Again," *Wall Street Journal*, August 17, 2020, <https://www.wsj.com/articles/reynolds-american-gains-on-juul-by-marketing-vaping-as-cool-again-11597688033>.
- ⁶¹ "Gateway to Addiction? A Survey of Popular Electronic Cigarette Manufacturers and Marketing to Youth," April 14, 2014, <http://democrats.energycommerce.house.gov/sites/default/files/documents/Report-E-Cigarettes-Youth-Marketing-Gateway-To-Addiction-2014-4-14.pdf>. See also, Noel, JK, Rees, VW, & Connolly, GN, "Electronic cigarettes: a new 'tobacco' industry?" *Tobacco Control* 20:81, 2011.
- ⁶² Richardson, A, et al., "Tobacco on the web: surveillance and characterization of online tobacco and e-cigarette advertising," *Tobacco Control*, Published Online First: February 14, 2014.
- ⁶³ Wang, TW, et al., "E-cigarette Use Among Middle and High School Students – United States, 2020," *MMWR*, Volume 69, September 9, 2020, <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6937e1-H.pdf>.
- ⁶⁴ Wang, TW, et al., "E-cigarette Use Among Middle and High School Students – United States, 2020," *MMWR*, Volume 69, September 9, 2020, <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6937e1-H.pdf>.

-
- ⁶⁵ Wang, TW, et al., “E-cigarette Use Among Middle and High School Students – United States, 2020,” *MMWR*, Volume 69, September 9, 2020, <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6937e1-H.pdf>.
- ⁶⁶ CDC, 2019 Youth Risk Behavior Survey, Available at <http://nccd.cdc.gov/youthonline/>.
- ⁶⁷ CDC, Office of the Surgeon General, “Health Care Professionals: Educate Your Young Patients About the Risks of E-cigarettes,” https://e-cigarettes.surgeongeneral.gov/documents/SGR_E-Cig_Health_Care_Provider_Card_508.pdf
- ⁶⁸ CDC, Office of the Surgeon General, “Know the Risks: E-Cigarettes and Young People, Frequently Asked Questions,” https://e-cigarettes.surgeongeneral.gov/documents/2016_SGR_ECig_FAQ_508.pdf
- ⁶⁹ Pax Labs, Inc. (former name of Juul Labs), *Pax Labs, Inc. Granted U.S. Patent for Nicotine Salt E-Cigarette*, December 22, 2015, https://www.juulvapor.com/media/wysiwyg/Juul/Juul_USPTO_Patent_Press_Release_15-1216.pdf.
- ⁷⁰ Office of the Surgeon General, “Surgeon General’s Advisory on E-Cigarette Use Among Youth,” December 18, 2018, <https://e-cigarettes.surgeongeneral.gov/documents/surgeon-generals-advisory-on-e-cigarette-use-among-youth-2018.pdf>.
- ⁷¹ Jackler, RK, Ramamurthi, D, *Nicotine arms race: Juul and the high-nicotine product market*, *Tobacco Control*, published online February 6, 2019.
- ⁷² Jackler, RK, Ramamurthi, D, “Nicotine arms race: Juul and the high-nicotine product market” *Tobacco Control*, published online February 6, 2019.
- ⁷³ Willett, J, et al., *Recognition, use and perceptions of Juul among youth and young adults*, *Tobacco Control*, published online April 18, 2018. See also: <https://truthinitiative.org/news/juul-e-cigarettes-gain-popularity-among-youth>.
- ⁷⁴ Jackler, RK, Ramamurthi, D, “Nicotine arms race: Juul and the high-nicotine product market” *Tobacco Control*, published online February 6, 2019.
- ⁷⁵ Jackler, RK, Ramamurthi, D, “Nicotine arms race: Juul and the high-nicotine product market” *Tobacco Control*, published online February 6, 2019.
- ⁷⁶ Cullen, KA, et al., *e-Cigarette Use Among Youth in the United States, 2019*, *JAMA*, published online November 5, 2019.
- ⁷⁷ Williams, R, “The rise of disposable Juul-type e-cigarette devices,” *Tobacco Control*, published online December 5, 2019.
- ⁷⁸ Williams, R, “The rise of disposable Juul-type e-cigarette devices,” *Tobacco Control*, published online December 5, 2019.
- ⁷⁹ HHS, *E-Cigarette Use Among Youth and Young Adults. A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016. See also, Leventhal, AM, et al., “Association of Electronic Cigarette Use With Initiation of Combustible Tobacco Product Smoking in Early Adolescence,” *Journal of the American Medicine Association*, 314(7): 700-707, 2015. Wills, Thomas A, et al., “Longitudinal study of e-cigarette use and onset of cigarette smoking among high school students in Hawaii,” *Tobacco Control*, published online first January 25, 2016. Wills, TA, et al., “E-cigarette use is differentially related to smoking onset among lower risk adolescents,” *Tobacco Control*, published online August 19, 2016. Barrington-Trimis, JL, et al., “E-Cigarettes and Future Cigarette Use,” *Pediatrics*, 138(1), published online July 2016.
- ⁷⁹ Barrington-Trimis, JL, et al., “E-Cigarettes and Future Cigarette Use,” *Pediatrics*, 138(1), published online July 2016. Wills, TA, et al., “E-cigarette use is differentially related to smoking onset among lower risk adolescents,” *Tobacco Control*, published online August 19, 2016.
- ⁸⁰ National Academies of Sciences, Engineering, and Medicine. 2018. *Public health consequences of e-cigarettes*. Washington, DC: The National Academies Press. <http://nationalacademies.org/hmd/Reports/2018/public-health-consequences-of-e-cigarettes.aspx>.
- ⁸¹ Berry, KM, et al., “Association of Electronic Cigarette Use with Subsequent Initiation of Tobacco Cigarettes in US Youths,” *JAMA Network Open*, 2(2), published online February 1, 2019.
- ⁸² Barrington-Trimis, JL, et al., “E-Cigarettes and Future Cigarette Use,” *Pediatrics*, 138(1), published online July 2016. Wills, TA, et al., “E-cigarette use is differentially related to smoking onset among lower risk adolescents,” *Tobacco Control*, published online August 19, 2016.
- ⁸³ Pub. L. No. 111-31, 123 Stat. 1776 (2009)(codified at 21 U.S.C. §§ 387-387u).
- ⁸⁴ 21 U.S.C §387j.
- ⁸⁵ Miech, R, et al., “Trends in Use and Perceptions of Nicotine Vaping Among US Youth from 2017 to 2020,” *JAMA Pediatrics*, published online December 15, 2020.
- ⁸⁶ Wang, TW, et al., “E-Cigarette Use Among Middle and High School Students – United States, 2020,” *MMWR* ePub, September 9, 2020, <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6937e1-H.pdf>
- ⁸⁷ Wang, TW, et al., “E-Cigarette Use Among Middle and High School Students – United States, 2020,” *MMWR* ePub, September 9, 2020, <https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6937e1-H.pdf>
- ⁸⁸ CDC Foundation, *Monitoring U.S. E-Cigarette Sales: National Trends*, November 2020, <https://www.cdcfoundation.org/E-CigaretteSales-DataBrief-Nov2020?inline>.